Nine-year democracy outcomes: Racial/Cultural engagement

Promoting racial understanding

Predictors	Workshop model				Discussion model				Socializing model				Same race: Close friends in college model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.228	■	■		.213	■			.213	■	■	■	.217	■	■	
Informal interaction (model)	.214	■			.286	■	■	■	.057				.106			

Cultural awareness and appreciation

Predictors	Workshop model				Discussion model				Socializing model				Same race: Close friends in college model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.278	■	■	■	.278	■	■	■	.278	■	■	■	.285	■	■	■
Informal interaction (model)	.194	■			.152	■			-.014				-.003			

Acceptance of persons from different races/cultures

Predictors	Workshop model				Discussion model				Socializing model				Same race: Close friends in college model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.218	■			.218	■	■	■	.218	■	■	■	.224	■	■	■
Informal interaction (model)	.242	■	■	■	.239	■	■		.047				-.085			

Nine-year outcomes: Living / working in a diverse society

How well did your undergraduate education prepare you for graduate school?

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.256	■	■	■	.262	■	■	■	.262	■	■	■	.265	■	■	■
Informal interaction (model)	-.011				.079				.089				-.056			

How well did your undergraduate education prepare your current/most recent job?

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.156				.154		■		.154				.159	■		
Informal interaction (model)	.118				.002				.020				.002			

Past year: Discussed racial/ethnic issues

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.240	■	■	■	.233	■			.233	■	■	■	.229	■	■	
Informal interaction (model)	.041				.408	■	■	■	.232	■	■		-.079	❖	❖	❖

Past year: Socialized with someone of another racial/ethnic group

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.138		■	■	.135				.135				.142			
Informal interaction (model)	-.176	❖	❖	❖	.142				.373	■	■	■	.035			

Current close friends are diverse

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	.139	■		■	.134	■	■	■	.134	■	■	■	.133	■		
Informal interaction (model)	.217	■	■	■	-.056				-.200		❖		.723	■	■	■

Current neighbors are diverse

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	-.073				-.077				-.077				-.081			
Informal interaction (model)	.025				-.189				-.173				.436	■	■	■

Current work associates are diverse

Predictors	Workshop model				Discussion model				Socializing model				Close friends in college were diverse model			
	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3	r	Step 1	Step 2	Step 3
Classroom	-.022				-.025				-.025				-.023			
Informal interaction (model)	.064				-.074				-.224	❖	❖	❖	.377	■	■	■

Significant positive effects: ■
Significant negative effects: ◆

Outcome variable

Learning outcomes: Active thinking

Complex thinking

	Personal interactions model			Negative interactions model			Amount of interaction with students of color model			Amount of interaction with African Americans model			Diversity of 6 best friends model			Participation with other groups model			Dialogue groups model			Number of multicultural events attended model		
	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2
Classroom diversity	.281	■	■	.281	■	■	.276	■	■	.276	■	■	.276	■	■	.280	■	■	.277	■	■	.273	■	
Informal interaction (model)	.193	■	■	-.076			.024			.003			.030			.118			-.162	◆		.207	■	

Social historical thinking

	Personal interactions model			Negative interactions model			Amount of interaction with students of color model			Amount of interaction with African Americans model			Diversity of 6 best friends model			Participation with other groups model			Dialogue groups model			Number of multicultural events attended model		
	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2
Classroom diversity	.331	■	■	.331	■	■	.334	■	■	.334	■	■	.334	■	■	.341	■	■	.334	■	■	.332	■	
Informal interaction (model)	.220	■	■	.018			.064			-.011			.055			.150	■	■	-.183	◆	◆	.306	■	

Learning outcomes: Engagement and motivation

Intellectual engagement

	Personal interactions model			Negative interactions model			Amount of interaction with students of color model			Amount of interaction with African Americans model			Diversity of 6 best friends model			Participation with other groups model			Dialogue groups model			Number of multicultural events attended model		
	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2
Classroom diversity	.090	■	■	.088	■	■	.092	■	■	.092	■	■	.092	■	■	.088	■	■	.091	■	■	.092	■	
Informal interaction (model)	.005			-.055			.014			-.022			-.004			.077	■	■	.028			.086	■	

Graduate school intentions

	Personal interactions model			Negative interactions model			Amount of interaction with students of color model			Amount of interaction with African Americans model			Diversity of 6 best friends model			Participation with other groups model			Dialogue groups model			Number of multicultural events attended model		
	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2
Classroom diversity	.085	■		.084	■	■	.083	■	■	.083	■	■	.083	■	■	.090	■	■	.085	■	■	.083	■	
Informal interaction (model)	.092	■	■	-.008			.023			-.005			.014			.069	■		-.025			.067	■	

Democracy outcomes: Compatibility of differences

Commonality with African Americans

	Personal interactions model			Negative interactions model			Amount of interaction with students of color model			Amount of interaction with African Americans model			Diversity of 6 best friends model			Participation with other groups model			Dialogue groups model			Number of multicultural events attended model		
	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2
Classroom diversity	.051			.051			.052			.052			.052			.055			.055			.057		
Informal interaction (model)	.092			-.112	♦	♦	.214	■	■	.196	■	■	.106			.000			-.084			.142	■	

Commonality with Asian Americans

	Personal interactions model			Negative interactions model			Amount of interaction with students of color model			Amount of interaction with African Americans model			Diversity of 6 best friends model			Participation with other groups model			Dialogue groups model			Number of multicultural events attended model		
	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2
Classroom diversity	.049			.049			.047			.047			.047			.046			.045			.042		
Informal interaction (model)	.162	■	■	-.127	♦	♦	.189	■	■	.045			.112	■	■	.061			.005			.117	■	

Commonality with Latinos

	Personal interactions model			Negative interactions model			Amount of interaction with students of color model			Amount of interaction with African Americans model			Diversity of 6 best friends model			Participation with other groups model			Dialogue groups model			Number of multicultural events attended model		
	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2
Classroom diversity	.083			.083			.084			.084			.084			.062			.082			.084		
Informal interaction (model)	.103	■		-.109	♦	♦	.191	■	■	.100			.079			.030			-.069	♦		.119	■	

Difference is nondivisive

	Personal interactions model			Negative interactions model			Amount of interaction with students of color model			Amount of interaction with African Americans model			Diversity of 6 best friends model			Participation with other groups model			Dialogue groups model			Number of multicultural events attended model		
	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2
Classroom diversity	.175	■	■	.171	■	■	.175	■	■	.175	■	■	.175	■	■	.179	■	■	.177	■	■	.174	■	
Informal interaction (model)	.055			-.039			.030			.112	■	■	.061	■	■	.083	■		-.092	♦		.208	■	

Democracy outcomes: Citizenship engagement

Perspective taking

	Personal interactions model			Negative interactions model			Amount of interaction with students of color model			Amount of interaction with African Americans model			Diversity of 6 best friends model			Participation with other groups model			Dialogue groups model			Number of multicultural events attended model		
	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2
Classroom diversity	.186	■	■	.186	■	■	.185	■	■	.185	■	■	.185	■	■	.190	■	■	.185	■	■	.184	■	
Informal interaction (model)	.162	■	■	-.098	♦	♦	.129	■	■	.078			.088			.062			.015		■	.144		

Democracy outcomes: Racial/cultural engagement

Learned about other groups

	Personal interactions model			Negative interactions model			Amount of interaction with students of color model			Amount of interaction with African Americans model			Diversity of 6 best friends model			Participation with other groups model			Dialogue groups model			Number of multicultural events attended model		
	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2
Classroom diversity	.310	■	■	.313	■	■	.315	■	■	.316	■	■	.315	■	■	.316	■	■	.319	■	■	.319	■	
Informal interaction (model)	.142	■	■	.019			.162	■	■	.156	■	■	.101	■	■	.100	■	■	-.154	♦	♦	.181	■	

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Significant positive effects: ■
Significant negative effects: ◆

Outcome variable

Learning outcomes: Active thinking

Complex thinking

	Personal interactions model			Negative interactions model			Amount of interaction with students of color model			Amount of interaction with White students model			Diversity of 6 best friends model			Participation with other groups model			Dialogue groups model			Number of multicultural events attended model		
	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2
Classroom diversity	.055			.055			.054			.054			.054			.067			.054			.069		
Informal interaction (model)	.165			.011			.141			.008			-.020			-.029			.030			.088		

Social historical thinking

	Personal interactions model			Negative interactions model			Amount of interaction with students of color model			Amount of interaction with White students model			Diversity of 6 best friends model			Participation with other groups model			Dialogue groups model			Number of multicultural events attended model		
	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2
Classroom diversity	.349	■	■	.349	■	■	.353	■	■	.353	■	■	.353	■	■	.369	■	■	.353	■	■	.364	■	
Informal interaction (model)	.187			.164			.138			-.026			-.076			.114	■		.095			.156		

Learning outcomes: Engagement and motivation

Intellectual engagement

	Personal interactions model			Negative interactions model			Amount of interaction with students of color model			Amount of interaction with White students model			Diversity of 6 best friends model			Participation with other groups model			Dialogue groups model			Number of multicultural events attended model		
	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2
Classroom diversity	.054			.054			.069			.069			.069			.082		■	.070			.096	■	
Informal interaction (model)	.244	■	■	-.047			.062			.210	■	■	.164			-.010			.012			.062		

Graduate school intentions

	Personal interactions model			Negative interactions model			Amount of interaction with students of color model			Amount of interaction with White students model			Diversity of 6 best friends model			Participation with other groups model			Dialogue groups model			Number of multicultural events attended model		
	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2
Classroom diversity	.160	■	■	.160	■	■	.172	■	■	.172	■	■	.172	■	■	.164	■	■	.172	■	■	.195	■	
Informal interaction (model)	.036			.017			.021			-.107		◆	-.111	◆		-.046			-.075			.136	■	

Democracy outcomes: Compatibility of differences

Commonality with African Americans

	Personal interactions model			Negative interactions model			Amount of interaction with students of color model			Amount of interaction with White students model			Diversity of 6 best friends model			Participation with other groups model			Dialogue groups model			Number of multicultural events attended model		
	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2
Classroom diversity	.184			.184			.198	■		.198			.198			.202		■	.198		■	.189		
Informal interaction (model)	.137			-.225		◆	-.142		◆	.063			.127			-.146			.247	■	■	-.145		

Commonality with Asian Americans

	Personal interactions model			Negative interactions model			Amount of interaction with students of color model			Amount of interaction with White students model			Diversity of 6 best friends model			Participation with other groups model			Dialogue groups model			Number of multicultural events attended model		
	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2
Classroom diversity	.013			.013			.029			.029			.029			.015			.029			.029		
Informal interaction (model)	.217	■	■	-.070			.303	■	■	.259	■	■	.162	■	■	.239	■	■	-.098			.001		

Commonality with Latinos

	Personal interactions model			Negative interactions model			Amount of interaction with students of color model			Amount of interaction with White students model			Diversity of 6 best friends model			Participation with other groups model			Dialogue groups model			Number of multicultural events attended model		
	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2
Classroom diversity	.199			.199			.232	■		.232	■	■	.232	■	■	.245	■		.232	■		.232	■	
Informal interaction (model)	-.008			.034			.233	■		-.013			-.101			.219	■		-.145			.258	■	

Difference is nondivisive

	Personal interactions model			Negative interactions model			Amount of interaction with students of color model			Amount of interaction with White students model			Diversity of 6 best friends model			Participation with other groups model			Dialogue groups model			Number of multicultural events attended model		
	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2
Classroom diversity	.127	■	■	.127	■		.137	■		.137	■	■	.137	■	■	.135	■	■	.137	■	■	.147	■	
Informal interaction (model)	.057			.121	■		.175	■	■	.047			-.034			.084			-.086			.190		

Democracy outcomes: Citizenship engagement

Perspective taking

	Personal interactions model			Negative interactions model			Amount of interaction with students of color model			Amount of interaction with White students model			Diversity of 6 best friends model			Participation with other groups model			Dialogue groups model			Number of multicultural events attended model		
	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2
Classroom diversity	.047			.047			.079			.079			.079			.068			.079			.068		
Informal interaction (model)	.144			-.129			.103			.131	■	■	-.009			.019			-.265	◆	◆	.198	■	

Democracy outcomes: Racial/cultural engagement

Learned about other groups

	Personal interactions model			Negative interactions model			Amount of interaction with students of color model			Amount of interaction with White students model			Diversity of 6 best friends model			Participation with other groups model			Dialogue groups model			Number of multicultural events attended model		
	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2	r	Step 1	Step 2
Classroom diversity	.345	■	■	.345	■	■	.344	■	■	.344	■	■	.344	■	■	.349	■	■	.347	■	■	.358	■	
Informal interaction (model)	.093	■		.014			.173	■		.118	■		-.071			.025			-.156	◆		.007		

APPENDIX E

CLASSROOM AND INFORMAL INTERACTIONAL DIVERSITY AT THE UNIVERSITY OF MICHIGAN

To provide context for the data presented in my statement of the impact of classroom and informal interactional diversity at Michigan, this appendix presents some findings from the Michigan Student Study on how Michigan students experience these two types of diversity.

Classroom Diversity

Classroom diversity was measured by an index constructed from two questions in the senior questionnaire. In one question students were asked to indicate, on a five-point scale ranging from "not at all" to "a great deal", the extent to which they had "been exposed" in their classes to "information and activities devoted to understanding other racial/ethnic groups and inter-racial ethnic relationships." In an attempt to measure the salience and impact of the diversity content that students encountered in their classes, the other question in this index asked students to indicate whether or not there had been a course at the university that had "an important impact on your views of racial/ethnic diversity and multiculturalism."

The different student groups at the University of Michigan varied somewhat in their involvement with diversity in their classes, although for many students in all groups this involvement was significant.

Among students of color, African American students had the most involvement with classroom diversity. Asian Americans had the least involvement, reflecting the fact that they more often majored in the natural sciences and engineering where diversity content is less relevant to the curriculum. Among African Americans, 40% indicated extensive ("quite a bit" or "a great deal") exposure to diversity content in their courses. An equal proportion indicated that their views on diversity had been significantly influenced by some course at Michigan. About one quarter of the Asian American students indicated extensive exposure and one quarter also indicated significant impact on their views on diversity.

Among white students, about one third (35%) indicated extensive exposure to diversity in their classes, and 28% said that this had a significant impact on them.

The two questions in the classroom diversity index do not explicitly indicate whether or not exposure to content on ethnicity and race through courses was a positive or negative experience. However, student responses to an open-ended question that followed the question on course impact suggest that the classroom effects were viewed as predominantly positive. This question asked students who identified a course that had affected their views on diversity to indicate "in what ways it changed your views." Over 95% of the students indicated that the impact of the course was positive. A few percent wrote about being "turned off" by the course.

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Pre-College and College Interactions with Diverse Students

Pre-College Experience with Diversity

Students of different racial and ethnic groups come to Michigan with strikingly different experiences with racial and ethnic diversity. White students come from the most segregated backgrounds and hence have the most to learn from the racial/ethnic diversity they find at Michigan.

Ninety-two percent of Michigan's white students grew up in neighborhoods that were predominantly white, and 83% went to

predominantly white high schools. In contrast, very few of the Latino and Asian American students had a segregated community or high school background: a little over 70% of them grew up in neighborhoods that were predominantly white, and two-thirds went to predominantly white high schools. About half of the African American students grew up in integrated or predominantly white neighborhoods, and 60% went to high schools that were integrated or predominantly white.

Extent of Interracial Relationships at Michigan

Michigan students indicate a considerable degree of interracial contact in their general relationships on the Michigan campus. For white students, who come from the most segregated backgrounds, this represents a significant increase over their pre-college experiences with personal interactions across racial and ethnic lines.

In response to a question that asked seniors to rate the "interactions they have with students from various racial/ethnic groups on campus," 40% of the white students indicated having "substantial" interaction with Asian American students and another 40% indicated having "some" interaction.

Twenty percent indicated "substantial" interaction and 45% "some" interaction with African American students. Despite the relatively low number of Latino students at Michigan, almost half the white students indicated at least "some" interaction with them.

The extent of interracial relationships is even greater among students of color, which is a reflection of the predominance of white students on the Michigan campus. Ninety-one percent of the Latino students, 86% of the Asian Americans, and 50% of the African American students have "substantial" interactions with white students.

Quality of Interracial Interactions

In addition to fairly extensive interracial interactions on the Michigan campus, the quality of these interactions is predominantly positive, particularly between white students and Asian Americans and Latinos. Students were asked to describe their relationships with the group they interacted most with on the Michigan campus. Latino and white students (and Asian American and white students) tend to view their relationships with each other as involving considerable cooperation and personal sharing, and very little hostility and tension. For example,

approximately two-fifths (39%) of the white students said they "studied together" with Latino students "quite a bit" or "a great deal", and two thirds (68%) of the white students said that they "shared personal feelings and problems" in these relationships. Moreover, only 7% of the white students said they "had tense, somewhat hostile interactions" with Latino students "quite a bit" or "a great deal", and only 1% said they "had guarded, cautious interactions" this often.

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About two-fifths (38%) of the white students said they "studied together" extensively with Asian American students, and about half (49%) said that they "shared personal feelings and problems" in these relationships. Only 1% of the white students said that these relationships involve extensive "tense, somewhat hostile interactions," and only 2% felt these interactions were extensively "guarded, cautious."

Their relationships with white students were viewed even more positively by Latino and Asian American students. Seventy-three percent of the Latino students and 67% of the Asian Americans said they "studied together" with white students "quite a bit" or "a great deal"; 85% of the Latino students and 70% of the Asian American students said they "shared personal feelings and problems" in these relationships. About 10% felt that these interactions were "tense, somewhat hostile" and "guarded, cautious."

Relationships that white students had with African American students were somewhat less

Close Friendships

In addition to questions about their general interracial interactions on campus, the Michigan seniors were asked to indicate the race/ethnicity of their six closest friends at Michigan. Since students were also asked to identify race/ethnicity of their six closest friends at the time they entered Michigan, we can measure the increase in the racial/ethnic diversity of the most intimate friendships. This question is particularly pertinent for African American and white students since Asian American and Latino students came to Michigan from predominantly white environments. At the time they entered Michigan, three or more of the six best friends of 87% of the Latino students were not Latino, and three or more of the six best friends of 73% of the Asian American students were not Asian American.

personal than their relationships with other students of color, but very few white students felt that their interactions with African Americans were negative. Fourteen percent of the white students said that "they studied together" with African American students "quite a bit" or "a great deal"; 29% said that they "shared personal feelings and problems" in these relationships. Only 4% of the white students said that they "had tense, somewhat hostile interactions" with African American students, and only 1% said these relationships were "guarded and cautious."

From the perspective of African American students, their relationships with white students were somewhat ambivalent, reflecting negative as well as positive interactions. Twenty-six percent of the African American students said that they "studied together" extensively with white students, and 25% said that they "shared personal feelings and problems." Twenty-three percent of the African American students said that their relationships with white students were "guarded and cautious," and 15% felt that they were "tense, somewhat hostile."

While close friendship circles of African American and white students are predominantly with peers of their own backgrounds both at entrance and after four years at the University of Michigan, there is a significant increase in the racial/ethnic diversity of such friendships.

The proportion of white students who had at least one close friend of color (among their six best friends) increased from about one third (32%) at the time they entered Michigan to almost half (46%) four years later. African American students with at least one close friend who was not African American increased from slightly less than half (47%) at time of entrance to slightly more than half (54%) when they were seniors.

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While one might hope that even more African American and white students would have increased their closest friendships with each other while at Michigan, the overall picture of interracial relationships at Michigan is predominantly positive. It does not conform to the views of those in the public debate who have claimed that affirmative action has created hostile interracial environments on our college campuses.

EXPERT REPORT OF WILLIAM G. BOWEN
Gratz, et al. v. Bollinger, et al., No. 97-75321 (E.D. Mich.)

I. Statement of Qualifications:

I am currently the president of the Andrew W. Mellon Foundation; I have held that position since 1988. Prior to that, I served as president of Princeton University for sixteen years, from 1972 to 1988, and as provost for five years, from 1967 to 1972. I was a Professor of Economics at Princeton University from 1965 until 1988; I had been a member of the faculty since 1958. I currently serve as a member of several corporate boards, including American Express and Merck & Co., Inc. I have written extensively about issues of higher education, including the consideration of race in admissions. A complete *curriculum vitae*, including a list of publications, is attached hereto as Appendix A.

II. Information Considered in Forming Opinions:

My opinions are based, in large part, on The Shape of the River: Long-Term Consequences of Considering Race in College and University Admissions, William G. Bowen and Derek Bok, Princeton University Press (1998). A copy of the book will be provided upon request.

III. Other expert testimony; compensation:

I have not testified as an expert at trial or by deposition within the preceding four years. I am not receiving any compensation for my work in connection with this matter.

IV. Opinions to be expressed and the basis and reasons therefor:

Higher education plays a unique role in our society. The obligation of a university is to the society at large over the long run, and, even more generally, to the pursuit of learning. Although this may seem amorphous, there is no escaping a university's obligation to try to serve the long-term interests of society defined in the broadest and least parochial terms, and to do so through two principal activities: advancing knowledge and educating students who will in turn serve others, within this nation and beyond it, both through their specific vocations and as citizens. Universities therefore are responsible for imparting civic and democratic values that are essential to the functioning of our nation.

Our society -- indeed, our world -- is and will continue to be multi-racial. We simply must learn to work more effectively and more sensitively with individuals of other races, and a diverse student body can make a profound and direct contribution to the achievement of this end. In the 1960s, barely one percent of law students and two percent of medical students in America were black. At that time, few leading professional schools and nationally prominent colleges and universities enrolled more than a handful of blacks. Late in the decade, however, selective institutions set about to change these statistics, not by establishing quotas, but by considering race, along with many other factors, in assembling a diverse student body of varying talents, backgrounds, and perspectives. Schools sought to achieve diversity to cross the racial borders that separated large segments of society and to reap the educational benefits to all students of learning on a diverse campus, in which they would transcend the misperceptions and stereotypes that had been borne of racial separation.

These selective institutions recognized that a student body containing many different backgrounds, talents, and experiences would be a richer environment in which all students could better develop into productive, contributing members of our society.

Amid much passionate debate, there has been little hard evidence of how these policies work and what their consequences have been. To remedy this deficiency, Derek Bok and I examined the college experiences of more than 60,000 students -- approximately 3,500 of whom were black -- who had entered 28 selective colleges and universities in the fall of 1976 and the fall of 1989;[1] we also surveyed a sub-set of these students (with a survey response rate of about 80%) and thus studied the later life experiences and views of 30,000 students. This massive database, built jointly by the schools and the Andrew W. Mellon Foundation, for the first time links information such as Scholastic Assessment Test ("SAT") scores and college majors to experiences after college, including graduate and professional degrees, earnings, and civic involvement. Most of our study focused on African-Americans and whites, because the Latino and Native American populations at these schools were too small in 1976 to permit the same sort of statistical analysis. Nevertheless, many of the findings may be applicable to these groups as well. Our conclusions are set forth in The Shape of the

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[1]   The 28 colleges and universities are: Barnard College, Bryn Mawr College, Columbia University, Denison College, Duke University, Emory University, Hamilton College, Kenyon College, Miami University (Ohio), Northwestern University, Oberlin College, Pennsylvania State University, Princeton University, Rice University, Smith College, Stanford University, Swarthmore College, Tufts University, Tulane University, University of Michigan at Ann Arbor, University of North Carolina at Chapel Hill, University of Pennsylvania, Vanderbilt University, Washington University, Wellesley College, Wesleyan University, Williams College, and Yale University.

River: Long-Term Consequences of Considering Race in College and University Admissions, William G. Bowen and Derek Bok, Princeton University Press (1998). This report attempts to summarize some of our findings. My testimony in this case will draw upon the book, as well as my 40 years of experience in academia, including my tenure as provost (five years) and president (16 years) of Princeton University, and my experience as a member of several corporate boards.

As a necessary predicate, a university must have the freedom to decide which students it will admit and which criteria it will use in its admissions decisions. This academic freedom is crucial in order for a school to fulfill its mission. At bottom, admissions officers must decide which set of applicants, *considered individually and collectively*, will take fullest advantage of what the college has to offer, contribute most to the educational process in college, and be most successful in using what they have learned for the benefit of the larger society.

Any college or university to which admissions is highly competitive, such as the University of Michigan at Ann Arbor, has far more applicants who possess all the basic qualifications than it has places. Some candidates (a relatively small number) are so outstanding in every respect that they are obvious choices for admission by any standard. The real problems of choice arise in deciding which individuals to admit from among the large group who also have very strong qualifications, who are thought capable of doing the work and doing it well, but who are not so clearly outstanding as to be placed in the very top category.

In my experience, in deciding among this group, a school does not start from the premise that any applicant has a "right" to a place in a college or university. Instead, the starting premise is that a school has an obligation to make the best possible use of the limited number of places in each entering class so as to advance as effectively as possible the broad purposes the school seeks to serve. Within the very real limits imposed by the fallibility of any selection process of this kind, a school should try

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hard to be fair to every applicant; but the concept of fairness itself has to be understood within the context of the obligations of a university. Accordingly, in making these difficult choices among well-qualified candidates, considerations other than just test scores and grades come into play.

The relevance of these other considerations is based on the premise that the overall quality of the educational program is affected not only by the qualities of the individual students who are enrolled, but also by the characteristics of the entire group of students who share a common educational experience. While I believe this to be true for graduate programs too, my own experience confirms the importance for undergraduate education and, as a consequence, affects admission decisions much more significantly at that level. If there is a difference, it is only one of degree, related partly to the ages and experiences of the students, partly to the purposes of their educational programs and especially to the emphasis given to academic specialization, and partly to the respective roles of extracurricular and curricular activities.

In a residential college setting, in particular, a great deal of learning occurs informally. It occurs through interactions among students of both sexes; of different races, religions, and backgrounds; who come from cities and rural areas, from various states and countries; who have a wide variety of interests, talents, and perspectives; and who are able, directly or indirectly, to learn from their differences and to stimulate one another to reexamine even their most deeply held assumptions about themselves and their world. As a wise graduate of Princeton University observed in commenting on this aspect of the educational process, "People do not learn very much when they are surrounded only by the likes of themselves."

It follows that if, say, 2,000 individuals are to be offered places in an entering undergraduate class, the task of an admissions office is not simply to decide which applicants offer the strongest credentials as separate candidates for the college; the task, rather, is to assemble a total class of students, all of whom will possess the basic qualifications, but who will also represent, in their totality, an interesting and diverse amalgam of individuals who will contribute through their diversity to the quality and vitality of the overall educational environment.

This concern for the composition of the undergraduate student body, as well as for the qualifications of its individual members, takes many forms. While a school is of course interested in enrolling students who are good at a great many things and not one-dimensional in any sense, it should also try to enroll students with special interests and talents in the arts and in athletics; it should seek a wide geographical representation; it should admit foreign students from a variety of countries and cultures; it should recognize the special contribution that the sons and daughters of alumni can make by representing and communicating a sense of the traditions and the historical continuity of the university; it should enroll students from a range of socioeconomic backgrounds; and it should work consciously and deliberately to include minority students, who themselves represent a variety of experiences and viewpoints.

We must accept as a fact of life in contemporary America that the perspectives of individuals are often affected by their race as by other aspects of their background. If a university were unable to take into account the race of candidates, it would be much more difficult to consider carefully and conscientiously the composition of an entering class that would offer a rich educational experience to all of its members. The unplanned, casual encounters with roommates, fellow sufferers in an organic chemistry class, student workers in the library, teammates on a basketball squad, or other participants in class affairs or student government can be subtle and yet powerful sources of improved understanding and personal growth.

Indeed, the data in our study prove what I have observed for years through experience -- that diversity is valued and that "learning through

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diversity" actually occurs. Our study indicates that diversity is a benefit for all students, minorities and nonminorities alike. Moreover, the data overwhelmingly demonstrate that minority students admitted to selective schools had strong academic credentials, graduated in large numbers and did very well after leaving college. By every measure of success (graduation, attainment of professional degrees, employment, earnings, civic participation, and overall satisfaction), the more selective the school, the more blacks achieved (holding constant their initial test scores and grades).

It is true that compared with their extremely high-achieving white classmates, black students in general received somewhat lower college grades and graduated at moderately lower rates. The reasons for these disparities are not fully understood, and selective institutions need to be more creative in helping improve black performance, as a few universities already have succeeded in doing. Still, 75 percent graduated within six years from the school they first entered, a figure well above the 40 percent of blacks and 59 percent of whites who graduated nationwide from the 305 universities tracked by the National Collegiate Athletic Association. Moreover, blacks did not earn degrees from these selective schools by majoring in easy subjects. They chose substantially the same concentrations as whites and were just as likely to have difficult majors, such as those in the sciences and engineering. These and other findings refute the argument that when black students are admitted to schools where many other students have stronger academic qualifications than their own -- as measured by grades and test scores -- that those students not only will drop out, but that they would have been better off attending a less selective institution.

Although over half of the black students attending these selective schools would have been rejected under a race-neutral admissions regime -- that is, if only the same proportions of black and white students had been admitted within each SAT interval -- they have done exceedingly well after college. Fifty-six percent of the black graduates who had entered these selective schools in 1976

went on to earn advanced degrees. A remarkable 40 percent received either PhDs or professional degrees in the most sought-after fields of law, business and medicine, a figure slightly higher than that for their white classmates and five times higher than that for blacks with bachelor's degrees nationwide. (As a measure of change, it is worth noting that by 1995, 7.5 percent of all law students in the United States were black, up from barely 1 percent in 1960; and 8.1 percent of medical school students were black, compared with 2.2 percent in the mid-1960s. Black elected officials now number more than 8,600.)

By the time of our survey, black male graduates who had entered selective schools in 1976 were earning an average of $85,000 a year, 82 percent more than other black male college graduates nationwide. Their black female classmates earned 73 percent more than all black women with bachelor's degrees. Not only has the marketplace valued the work of these graduates highly, but the premium associated with attending one of these selective institutions was substantial. Overall, we found that among blacks with similar test scores, the more selective the college they attended, the more likely they were to graduate, earn advanced degrees and receive high salaries. This was generally true for whites as well.

Despite their high salaries, the blacks in our study were not just concerned with their own advancement. In virtually every type of civic activity, from social service organizations to parent associations, black men were more likely than their white classmates to hold leadership positions. Much the same pattern holds for women. These findings should reassure black intellectuals who have worried that blacks -- especially black men -- would ignore their social responsibilities once they achieved financial success.

Were black students demoralized by having to compete with whites with higher high school grades and test scores? Is it true, as Dinesh D'Souza asserts in his book "Illiberal Education," that "American universities are quite willing to sacrifice the future happiness of many young blacks and Hispanics to achieve diversity, proportional

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representation, and what they consider to be multicultural progress"? The facts are very clear on this point. Far from being demoralized, blacks from the most competitive schools are the most satisfied with their college experience. More than 90 percent of both blacks and whites in our survey said they were satisfied or very satisfied with their college experience, and blacks were even more inclined than whites to credit their undergraduate experience with helping them learn crucial skills. We found no evidence that significant numbers of blacks felt stigmatized by race-sensitive policies. Only seven percent of black graduates said they would not attend the same selective college if they had to choose again.

Former students of all races reported feeling that learning to live and work effectively with members of other races is important. Large majorities also believed that their college experience contributed a lot in this respect. Consequently, almost 80 percent of the white graduates favored either retaining the current emphasis on enrolling a diverse class or emphasizing it more. Their minority classmates supported these policies even more strongly.

Some critics allege that race-sensitive admissions policies aggravate racial tensions by creating resentment among white and Asian students rejected by colleges they hoped to attend. Although we could not test this possibility definitively, we did examine the feelings of white students in our sample who had been rejected by their first-choice school. They said they supported an emphasis on diversity just as strongly as students who got into their first-choice schools.

Our findings also clarify the much misunderstood concept of merit in college admission. Many people suppose that all students with especially high grades and test scores "deserve" to be admitted and that it is unfair to reject them in favor of minority applicants with lower grades and test scores. But selective colleges do not automatically offer admission as a reward for past performance to anyone. Nor should they. For any institution, choosing fairly, "on the merits,"

means selecting applicants by criteria that are reasonably related to the purposes of the organization. For colleges and universities, this means choosing academically qualified applicants who not only give promise of doing well academically, but who also can enlarge the understanding of other students and contribute after graduation to their professions and communities. Though clearly relevant, grades and test scores are by no means all that matter.

Accordingly, an admissions policy that relied primarily on test scores would lead to the rejection of qualified minority students. The fact that, nationally, blacks are very underrepresented at the higher levels and very overrepresented at the lower levels ensures that they will have substantially lower average SAT scores even if a college were to use precisely the same SAT cut-off in admitting white and black students. For example, if a school admitted every applicant with SAT scores over 1100 and none with lower scores, the white students would still have a higher average SAT score than the black students because relatively more of them score at the upper end of the SAT distribution. This result occurs even though *no* racial preference was given in this hypothetical situation.

As a group, however, the black applicants are highly qualified. Of the black applicants at five of the 28 schools for which detailed admission data were available in 1989, over 90 percent scored above the national average for black test-takers on both the verbal and math SATs, considered separately. The large majority of these black applicants handily outscored not only the average black test-taker, but also the average white test-taker. Moreover, the average SAT score for black matriculants in 1989 was slightly higher than the average SAT score for *all* matriculants in 1951.

Talk of basing admissions mainly on test scores and grades assumes a model of admissions radically different from the one that exists today. Such a policy would mandate a fundamental change of direction for institutions that recognize the many dimensions of "qualification": the importance of a good fit between the student and the educational

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program, the varied paths that individuals follow in developing their abilities, and the pitfalls of basing assessments of talent and potential solely on narrowly defined quantitative measures. Instead, as I described earlier, admissions officers have been "picking and choosing," as we believe they should always do -- admitting the candidate who seems to offer something special by way of drive and determination, the individual with a set of skills that matches well the academic requirements of the institution, someone who will bring another dimension of diversity to the student body, or a candidate who helps the institution fulfill a particular aspect of its mission.

Because other factors are important -- including hard-to-quantify attributes such as determination, motivation, creativity and character -- many talented students, white and black, are rejected even though they finished in the top 5 percent of their high school class. The applicants selected are students who were also above a high academic threshold but who seemed to have a greater chance of enhancing the education of their classmates and making a substantial contribution to their professions and society. Seen from the perspective of how well they served the missions of these educational institutions, the students admitted were surely "meritorious."

Could the values of diversity be achieved equally well without considering race explicitly? The Texas legislature has tried to do so by guaranteeing admission to the state's public universities for all students who finish in the top 10 percent of their high school class. Others have suggested using income rather than race to achieve diversity. The available evidence indicates that neither alternative is likely to be as effective as race-sensitive admissions in enrolling an academically well prepared and diverse student body. First, the Texas approach would admit some students from weaker high schools while turning down better-prepared applicants who happen not to finish in the top tenth of their class in academically stronger schools. So long as high schools differ so substantially in the academic abilities of their students and the level of difficulty of their courses,

treating all applicants alike if they finished above a given high school class rank provides a spurious form of equality that is likely to damage the academic profile of the overall class of students admitted to selective institutions. Instead of being an effective substitute for race-sensitive admissions policies, this approach could well have the effect of diminishing the pool of students who can compete effectively for the most demanding positions of leadership in business, government, and the professions.

Second, income-based strategies are unlikely to be good substitutes for race-sensitive admissions policies because there are simply too few blacks and Latinos from poor families who have strong enough academic records to qualify for admission to highly selective institutions. Children from poor black and Hispanic families make up less than half of all poor children and are much less likely than poor whites to excel in school. For example, the data show that among all students from families with incomes under $20,000 who also finished in the top tenth percent of their high school class, only one in six is black or Hispanic. Thus, moving from a race-sensitive admissions policy to a class-based one would substantially reduce the minority enrollments at selective institutions, and severely impair current efforts to achieve racial diversity.

What would happen if universities were flatly prohibited from considering race in admissions? Our findings suggest that over half of the black students in selective colleges today would have been rejected. Plainly, the educational benefits that students gain from learning from each other would be lost. Furthermore, we can estimate what else would be lost as a result:

● Of the more than 700 black students who would have been rejected in 1976 under a race-neutral standard, more than 225 went on to earn doctorates or degrees in law, medicine or business. Approximately 70 are now doctors and roughly 60 are lawyers. Almost 125 are business executives. The average earnings of all

700 exceeds $71,000, and well over 300 are leaders of civic organizations.

- The impact of race-neutral admissions would be especially drastic in admission to professional schools. The proportion of black students in the Top Ten law, business and medical schools would probably decline to less than 1 percent. These are the main professional schools from which most leading hospitals, law firms and corporations recruit. The result of race-neutral admissions, therefore, would be to damage severely the prospects for developing a larger minority presence in the corporate and professional leadership of America.

The reasons diversity has become so important at the highest levels of business, the professions, government, and society at large are readily apparent. By the year 2030, approximately 40 percent of all Americans are projected to be members of minority groups. More than $600 billion in purchasing power is generated by minorities and more than one-third of all new entrants to the workforce are persons of color. In this environment, a diverse corporate leadership can be valuable both to understand the markets in which many companies sell and to recruit, manage, and motivate the workforce on which corporate performance ultimately depends. The chief executive officers of major corporations have so recognized. For example, the CEO of Coca-Cola has stated that, "[a]s a company that operates in nearly 200 countries, we see diversity in the background and talent of our associates as a competitive advantage and as a commitment that is a daily responsibility." Similarly, the CEO of Chrysler has stated that "we believe that workforce diversity is a competitive advantage. Our success as a global community is as dependent on utilizing the wealth of backgrounds, skills, and opinions that a diverse workforce offers, as it is on raw materials, technology and processes."[2]

My own experience as a member of several corporate boards, including American Express and Merck & Co., confirms that these statements are echoed throughout the business community. I know that the business world has not failed to recognize and appreciate the importance of diversity. Corporations are making significant efforts in recruiting and retaining a workforce that values diversity and that can effectively conduct business worldwide. There is no question that graduates of universities with diverse populations -- whether minorities or nonminorities themselves -- offer the advantage of being valuable co-workers and managers in this increasingly diverse business climate.

Race remains a significant factor in our society. Race almost always affects an individual's life experiences and perspectives, and thus a person's capacity to contribute to the kinds of learning through diversity that occur on campuses. Both the growing diversity of American society and the increasing interaction with other cultures worldwide make it evident that going to school with "the likes of oneself" will be increasingly anachronistic. The advantages of being able to understand how others think and function, to cope across racial divides, and to lead groups composed of diverse individuals are certain to increase. Moreover, our survey data throw new light on the extent of interaction occurring on campuses today and of how positively the great majority of students regard opportunities to learn from those with different points of view, backgrounds, and experiences.

[2] M. Douglas Ivester (Chairman and CEO of The Coca-Cola Company) and Robert J. Eaton (Chairman and CEO of Chrysler Corporation), in Executive Council 1998, pp. 10, 34.

In sum, the data indicate that there is a statistically significant association between attendance at the most selective institutions and a variety of accomplishments during college and in later life. If, at the end of the day, the question is whether the most selective colleges and universities have succeeded in both enhancing the learning experience for all students and educating sizable numbers of minority students who have already achieved considerable success and seem likely in time to occupy positions of leadership throughout society, I have no problem in answering the question -- absolutely.

EXPERT REPORT OF CLAUDE M. STEELE

Gratz, et al. v. Bollinger, et al., No. 97-75321 (E.D. Mich.)
Grutter, et al. v. Bollinger, et al., No. 97-75928 (E.D. Mich.)

I have been Chair of the Department of Psychology at Stanford University since 1997, and a Professor of Psychology since 1991. Prior to that, I was a Professor of Psychology at the University of Michigan from 1987 to 1991; during the last two years at the University of Michigan, I also served as a Research Scientist for the Institute for Social Research. Before that, I was a member of the faculty at the University of Washington from 1973 to 1987. I have written extensively about the psychology of how minority groups, especially African Americans, contend with negative stereotypes and the role this process can play in their school achievement and standardized test performance. A complete curriculum vitae, including a list of publications, is attached hereto as Appendix A. I have not testified as an expert at trial or by deposition in any prior case. I am being compensated at a rate of $200 per hour for my work in connection with this matter.

My testimony is based, most generally, on an expertise that has been developed over a 25-year period of research in the areas of social psychology, the social psychology of race and race relations, and the effects of race on standardized test performance. In preparing this testimony I have consulted a broad range of knowledgeable colleagues and experts in these areas, as well as the relevant research literature. My testimony is also based on a 10-year research program that I have directed, the aim of which has been to understand the role of race and gender stereotypes in shaping test performance and the formation of academic identities.

Although most of the relevant data used in this report comes from research done on the SAT exam (the Educational Testing Service has broadly disseminated substantial information on the characteristics and validity of data on the SAT), my conclusions can fairly be generalized to the ACT and LSAT exams, as well. These tests are so similar in the way they are constructed, what they measure, and their purpose (aids to admission decisions in higher education) that I treat them as a single class of tests with the presumption that, as far as my testimony goes, what is said of one test generalizes to the others as well. Throughout my testimony, then, when reference is made to testing data, unless otherwise specified, it refers to data based on the SAT.

OPINIONS TO BE EXPRESSED

Standardized admissions tests such as the SAT, the ACT, and the LSAT are of limited value in evaluating "merit" or determining admissions qualifications of all students, but particularly for African American, Hispanic, and American Indian applicants for whom systematic influences make these tests even less diagnostic of their scholastic potential. The first part of this caution—that the test should not be relied upon too heavily in general admissions—is a standard recommendation of the companies that produce these tests, but is also based on extensive evidence documenting the limited predictiveness of these tests. This is not surprising given that these tests are not designed to measure innate ability nor mastery of a specified curriculum. Instead, standardized tests measure developed skills.

The second part of the caution with respect to standardized tests—that use of these tests with minority applicants is especially unreliable—is based on longstanding research, including work done in my own laboratory over the past 10 years, showing that experiences tied to one's racial and ethnic identity can artificially depress standardized test performance. Importantly, these effects go beyond any effects of socioeconomic disadvantage, affecting even the best prepared, most invested students from these groups who often come from middle-class backgrounds. Relying on these tests

too extensively in the admissions process will preempt the admission of a significant portion of highly qualified minority students. In making this argument, I will address three issues: The nature of the mental capacity measured by these tests; how well these tests predict performance in higher education for all students; and reasons African American, Hispanic, and American Indian students are more likely to underperform on these tests.

I. What kind of capacity is measured by standardized admissions tests?

1. How are the SAT, ACT, and LSAT designed? To understand what these tests do and do not measure, it is important first to understand how they are constructed. In the first step, a group of professional item writers and content area experts generate a large pool of test items in the areas covered by the test. In this process, the test makers are guided by general guidelines about what skills and knowledge are critical to succeeding in a given area. But these guidelines are not derived from some clearly specified theory or knowledge of how to measure intelligence or scholastic aptitude in these areas. They are settled on, for the most part, by consensus among the item generators and the board of area experts who they consult.

Next, these items are given to a norming sample of people who are selected for either being a representative or a random sample of the population for whom the test is to be used. Roughly speaking, items that correlate with school grades in this norming sample are kept on the test and items that do not correlate well with grades in this sample are dropped from the test. For example, correct answers given on test items involving algebra by a student who received high grades in his or her algebra classes, would be kept because they correlated positively with school success. In this way, items are identified that, for this population, are associated with school success, or in testing parlance, are "predictive" of school success. The resulting test can then be administered in this population with the feature that one's score on it will be somewhat predictive of the grades one will achieve. Like most standardized scholastic tests, the SAT, ACT, and LSAT are all constructed in this way.

2. What do these tests measure? The overriding implication of this construction procedure is that it is difficult to answer this question with a precise, conceptual definition. As has been classically said, "scholastic aptitude is what scholastic aptitude tests measure." The content of the test is not derived from a clear conception of the aptitude under test, and the inclusion of items on the test is decided empirically—by which items correlate with school grades in the norming sample. To develop a conceptual understanding of the mental capacities measured by the test, one would have to do what test researchers do: Work backwards by trying to discern through factor analysis of the items selected what underlying capacities they measure.

Two things about the nature of these tests that bear on their use in college and law school admissions can be said with certainty. First, based on this test construction methodology it is clear that the items on these tests measure what has to be substantially learned or "developed" skills and knowledge. Many factors including heredity may underlie scholastic aptitude, but even the highest estimates of hereditary influence allow for substantial influence of experiential factors. This means that one's performance on these tests can be influenced by one's experience, by one's cultural background, by one's access to schooling and the cultural perspectives, attitudes, and know-hows that might favor test performance, by the extent to which one's peers value school achievement, by the nature of one's dinner table conversation, and so on. This point will be important to my later discussion of the role of race and ethnicity in influencing performance on these tests. In addressing those issues, it is important to emphasize that the SAT, ACT, and LSAT are not tests of innate ability that are impervious to experiential influences. Quite the opposite is true.

The second point about test content that can be made with certainty is that, in addition to not measuring mental capacity, neither are they achievement tests: they are not constructed to test how much one has learned from a specifiable curriculum. Rather, they are described by their makers as "aptitude" tests. I have just explained how difficult it is to conceptually define the "aptitude" they measure (other than to say that it is a measure of test-taking aptitude). But it is not the case that, not measuring a specifiable aptitude, they do measure achievement or how much one has learned in school. Ours is the only nation in the world that uses aptitude tests in higher education admissions rather than tests that measure

achievement—how much a person has learned in earlier schooling, which are typically better predictors of success in higher education than aptitude tests.

In sum, then, as the companies that make them acknowledge, the SAT, ACT, and LSAT measure a set of scholastic skills that are neither innate nor directly influenced by school curricula. Thus the value of these tests in informing admissions decisions depends not on assessing some well-defined talent or knowledge base, but solely on their empirically determined ability to predict college or law school grades. How well, then, do they predict these grades?

II. How good are standardized admission tests at predicting success in higher education?

The SAT is popularly assumed to measure such a singularly important component of academic merit as to mandate its centrality in the admissions process. Among the most common rationales for using it to make admissions decisions, in addition to the use of school grades, is that it taps a form of scholastic aptitude that is not dependent on the quality of one's high school curriculum—thus the idea that it measures an underlying, if not innate, aptitude. In contrast to most people's expectations, however, the SAT in fact measures only about 18% (ranging from 7% to 30%) of the factors that determine a person's freshman grades. And this figure holds even when controlling for the difficulty of the courses taken. (It also holds when the statistical problem of restriction of range is controlled for.) Moreover, the SAT adds hardly any predictive power in the prediction of freshman grades over what one gets from using high school grades alone. That is, using the SAT only increases one's prediction of freshman grades by about 3% or 4% (ranging from 0% to 7%) over what one could predict using high school grades alone. And as the criterion measures get farther away in time from when the SAT is taken—as for sophomore grades, graduation rates, and professional success—the correlations with the SAT get substantially smaller.

An important implication of this fact is that even large score differences on the SAT do not translate into very large differences in the skills that underlie grade performance. This is what is implied by the small relationship between scores on the test and subsequent grades: that relatively few of the skills critical to grades are measured by the tests. And this, in turn, means that a score difference between two people, or between two groups (for example, Blacks and Whites), that is as large as say, 300 points, a difference that can sound big, actually represents a very small difference in skills critical to grade performance.

Perhaps the limitations on the usefulness of these tests can be made clearer with an analogy. Suppose that you were confined to selecting a basketball team based on how many of 10 free throws a player hits. The first thing you'd worry about is having to select basketball players based on the single criterion of free throw shooting, which you know is only a small portion of the skills that go into actual basketball playing. Even worse, you would know that you would never pick Shaquille O'Neal. Similarly, standardized tests tap only a small set of the skills that make a good student—approximately the 18% that I mentioned.

Another problem you would have selecting your basketball team would be how to interpret a player's scores. If a player hits 10 of 10 or 0 of 10 you would be fairly confident about making a judgment; the 10 of 10 guy you keep, the 0 of 10 guy you drop. But what about the player who hits 3, 4, 5, 6, or even 7? Middling scores like these could be influenced by many things other than underlying potential for free throw shooting or basketball playing, such as the amount of practice involved, access to effective coaching, whether the player was having a good or a bad day. Roughly the same is true, I suggest, for interpreting standardized test scores: Extreme scores (though less reliable) might permit some confidence in a student's likelihood of success, but middling scores are more difficult to interpret as an indication of underlying promise. Are they inflated by middle-class advantages such as prep classes, private schools, and European Cathedral tours? Or are they deflated by race-linked experiences such as social segregation and being consistently assigned to the lower tracks in school?

Although test scores can be useful and do have the ability, however limited, to inform admission decisions, the fact is that they simply do not capture any large portion of what makes up academic potential or merit. Grades depend on many things not measured by these tests, and admissions committees should use them with caution and only together with as much other information about candidates as can be obtained. This advice holds for students from any background. But there are reasons to believe that this advice is especially important in the case of minorities.

III. Are there significant factors that might cause African American, Hispanic, and American Indian students to perform less well than other groups on these tests?

The answer to this question is a resounding, "Yes." I describe here what I regard as the two most important such factors.

Stereotype threat and test performance. My research, and that of my colleagues, has isolated a factor that can depress the standardized test performance of minority students—a factor we call stereotype threat. This refers to the experience of being in a situation where one recognizes that a negative stereotype about one's group is applicable to oneself. When this happens, one knows that one could be judged or treated in terms of that stereotype, or that one could inadvertently do something that would confirm it. In situations where one cares very much about one's performance or related outcomes—as in the case of serious students taking the SAT—this threat of being negatively stereotyped can be upsetting and distracting. Our research confirms that when this threat occurs in the midst of taking a high stakes standardized test, it directly interferes with performance.

In matters of race we often assume that once a situation is objectively the same for different groups, that it is experienced the same by each group. This assumption might seem especially reasonable in the case of "standardized" cognitive tests. But for Black students, unlike White students, the experience of difficulty on the test makes the negative stereotype about their group relevant as an interpretation of their performance, and of them. Thus they know as they meet frustration that they are especially likely to be seen through the lens of the stereotype as having limited ability. For those Black students who care very much about performing well, this is an extra intimidation not experienced by groups not stereotyped in this way. And it is a serious intimidation, implying, as it does, that they may not belong in walks of life where the tested abilities are important, walks of life in which they are heavily invested. Like many pressures, it may not be fully conscious, but it may be enough to impair their best thinking.

To test this idea, Joshua Aronson and I asked Black and White Stanford students into our

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laboratory and, one at a time, gave them a very difficult 30-minute verbal test, the items of which came from the advanced Graduate Record Examination in literature. The bulk of these students were sophomores, which meant that the test would be difficult for them—precisely the feature that we reasoned would make this simple testing situation different for our Black participants than for our White participants. We told each student that we were testing ability.

Black students performed dramatically worse than White students on the test. As we had statistically equated both groups on ability level, the differences in performance were not because the Black students had weaker skills than the White students. Something else was involved. Before we could confirm that that "something else" was stereotype threat, we had to control for the possibility that the Black students performed worse than the White students because they were less motivated or because their skills could be somehow less easily extrapolated to the advanced material of this test. We concluded that if stereotype threat and not something about these students themselves had caused their poorer test performance, then doing something that would reduce this threat during the test should allow their performance to improve, to go up to the level of equally capable White students. We devised a simple way to test this: We presented another group of Black and White sophomores, again statistically equated on ability level, the same test we had used before—not as a test of ability, but as a "problem-solving" task that had nothing to do with ability. This made the stereotype about Blacks' ability irrelevant to their performance on the task since, ostensibly, the task did not measure ability. A simple instruction, yes, but it profoundly changed the meaning of the situation. It told Black participants that the racial stereotype about their ability was irrelevant to their performance on this particular task. In the stroke of an instruction, the "stereotype spotlight," as psychologist Bill Cross once called it, was turned off.

As a result, Black students' performance on this test matched the performance of equally qualified Whites. With the stereotype spotlight on, Blacks

performed dramatically worse than Whites; with it off, they performed the same. Thus, stereotype threat of the sort that we argue characterizes the daily experiences of Black students on predominantly White campuses and in a predominantly White society, can directly affect important intellectual performances such as standardized test performance.

But it has broader effects too. Stereotype threat follows its targets onto campus, affecting behaviors of theirs that are as varied as participating in class, seeking help from faculty, contact with students in other groups, and so on. And as it becomes a chronic feature of one's school environment, it can cause what we have called "disidentification"; the realignment of one's self-concept and values so that one's self-regard no longer depends on how well one does in that environment. Disidentification relieves the pain of stereotype threat by breaking identification with the part of life where the pain occurs, which necessarily includes a loss of motivation to succeed in that part of life. When school is the part of life where stereotype threat is felt—as for women in advanced math or African Americans in all areas—disidentification can be a costly and life-altering adaptation.

In subsequent years, our research has revealed several important parameters of the effect of stereotype threat on standardized test performance. First, it can interfere with the test performance of any group whose abilities are negatively stereotyped in the larger society: Women taking difficult math tests; lower-class French students taking a difficult language exam; older people taking a difficult memory test; White male athletes being given a test of natural athletic ability; White males taking a difficult math test on which they are told "Asians do better"; as well as Hispanic students at the University of Texas being given a difficult English test. This research shows stereotype threat to be a very general effect, one that is undoubtedly capable of undermining the standardized test performance of any group negatively stereotyped in the area of achievement tested by the test.

We have also discovered that the detrimental effect of stereotype threat on test performance is greatest for those students who are the most invested in doing well on the test. As an intimidation, one might expect that it would affect the weakest students most. But this is not what happens. Across our research, stereotype threat most impaired students who were the most identified with achievement, those who were also the most skilled, motivated, and confident—the academic vanguard of the group more than the academic rearguard.

This fact had been beneath our noses all along in our data and even in our theory. A person has to care about a domain in order to be disturbed by the prospect of being stereotyped in it. So all of our earlier experiments had selected participants who were identified with the domain of the test involved—Black students identified with verbal skills and women identified with math. But we had not tested participants who were less identified with these domains. When we did, what had been beneath our noses hit us in the face. None of these disidentified students showed any effect of stereotype threat whatsoever. Nothing.

Now make no mistake, these disidentified students did not perform well on the tests. Like anyone who does not care, they would start the test, discover its difficulty, stop trying very hard and get a lower score. But their performance did not differ depending on whether they were at risk of being judged stereotypically—their performance was the same regardless of whether they had been told it was their ability we were testing.

This finding tells us two important things. The first is that the poorer standardized test performance of Black students may have two sources. One is more commonly understood: It is the poorer performance of some among this group who are not well prepared and perhaps not well identified with school achievement. The other, however, has not been well understood: The underperformance among strong, school-identified members of this group whose lower performance reflects the stereotype threat they are under.

But these findings make a point of some poignance as well: The characteristics that expose this vanguard to the pressure of stereotype threat is not weaker academic identity and skills, but stronger academic identity and skills. They have long seen themselves as good students, better than most other people. But led into the domain by their strengths, they pay an extra tax on their investment there, a "pioneer tax," if you will, of worry and vigilance that their futures will be compromised by the ways society perceives and treats their group. And it is paid everyday, in every stereotype-relevant situation. Recent research from our laboratory shows that this tax has a physiological cost. Black students performing a cognitive task under stereotype threat had elevated blood pressure.

This finding raises another point: Being a minority student from the middle-class is no escape from stereotype threat and its effect on standardized test performance or performance in higher education more generally. In the American mind we have come to view the disadvantages associated with being Black, for example, as disadvantages of social and economic resources and opportunity. This assumption is often taken to imply its obverse: That is, if you are Black and come from a home that has achieved middle-class status, your experiences and perspectives are no longer significantly affected by race. Our research shows quite clearly that this is not so. In fact, if being middle-class gave you the resources that helped you identify with school achievement, ironically, it may lead you to experience stereotype threat even more keenly. It is investment in the domain of schooling—often aided by the best resources and wishes of middle-class parents—that can make one, at the point of reaching the difficult items on the SAT, experience the distracting alarm of stereotype threat.

All of these findings then, taken together, constitute a powerful reason for treating standardized tests as having limited utility as a measure of academic potential of students from these groups. But there are other reasons as well.

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Different experiences. The point here is that factors like race, social class, and ethnicity still shape the life trajectories and experiences of individuals in society and as a result, can have profound effects on test performance. For example, consider what being African American, even from the middle-class, can predispose a person to experience: Assignment to lower academic tracks throughout schooling; being taught and counseled with lower expectations by less skilled teachers in more poorly funded schools; attending school in more distressed neighborhoods or in suburban areas where they are often a small, socially isolated minority; living in families with fewer resources; and having peers who—alienated by these conditions—may be more often disinterested in school. Clearly these race-linked experiences are enough to lead students from this group to have lower scores on the SAT at the point of applying to college without any reference to innate ability. A similar scenario could be described for many Hispanic groups in this society and for American Indians (especially those living on reservations).

If one thinks of all the relationships, experiences, and motivations that underlie good test performance as a river or confluence of influences, it is clear that some groups will have more access to this river than others. Accordingly, those with less access, by dint of the weaker academic and test performance skills this causes, will have lower test

Conclusion.

In recent years the media has made a great deal of the fact that minority students on a college campus often have lower average SAT scores than Whites and Asians on the same campus. The clear implication, presumably taken up by the public, is that SAT gaps of this size reflect that the minorities being admitted are "less qualified" than the White and Asian students. My testimony, I hope, has put these gaps in a different light: Gaps of this size actually represent only a tiny difference in the real skills needed to get good college or law school grades and they reflect the influence of a complex of factors tied to race in our society that, for reasons unrelated to real academic

scores and thus more limited access to higher education. Of course, to the extent that the skills they lack are critical to success in school, this limitation of access is appropriate under the ideal of sending the most qualified students on to higher education. But it is important to stress, even here, that for these students, their lower test scores may reflect their limited access to the critical confluence of experiences as much as any real limitation in potential for higher education.

Again the free-throw analogy might be helpful. The part of this analogy most relevant to the present point is how to interpret the performance of people who, for sociocultural reasons, have had little exposure to free-throw shooting. They are not likely to hit many shots. But the problem is how to interpret their poor performance vis a vis their potential to play basketball, Their poor free-throw shooting could reflect problems that would make them very poor basketball players, or it could reflect a lack of experience that could be easily overcome, or even an orientation that while hurting free-throw shooting might help basketball playing. It would be difficult to know. And this is the fundamental ambiguity surrounding the interpretation of low SAT scores among students from backgrounds without significant access to the culture represented on the test. Their lower scores are more difficult to interpret.

potential, depress minority student test scores. Furthermore, this gap is almost never caused by there being a lower admissions threshold for Blacks than for Whites or Asians. It reflects the fact that there is a smaller proportion of Black than Whites and Asians with very high SAT scores. Thus, when you average each group's scores, the Black average will be lower than the White and Asian averages. Why there is a smaller proportion of Blacks with very high scores is, of course, a complex question with multiple answers involving, among other things, the effects of race on educational access and experience, as well as the processes dwelt on in this document. The point, though, is that Black test

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score deficits are taken as a sign of their being underprepared when, in fact, virtually all Black students on a given campus have tested skills completely "above threshold" within the range of the tested skills for other students on the campus, and in this sense, have skills up to the competition.

Having made these arguments, I hope to have provided a better understanding of minority students' underperformance on standardized tests and of what that underperformance means with regard to their ability to succeed in higher education. It is simply the case that we have no single, or even small, set of indicators that satisfactorily captures "merit" or "potential" for academic success and a contributing life.

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